Questions and Answers for Project No. 558-14-303

Upgrade Energy Management Controls

1. Do any ceiling tiles, if damaged, have to be replaced by Contractor?
   The contractor shall replace any ceiling tiles they damage during the course of work.
2. Please verify that there is no fire alarm work in the scope of work.
   There is no fire alarm work. Caution must be taken with demoing pneumatic lines since some branch off to pneumatically controlled smoke dampers.
3. With regard to mounted new electronic thermostats, if any painting or patching is required, who is responsible for this? Are there any other wall covering to be considered such as paneling or wall paper?
   The contractor shall be responsible for any painting or patching. In the medical center there are areas where paneling and wall paper is used.
4. How far back do the pneumatic lines need to be demolished? Can we simply cap the main lines in each area?
   The pneumatic lines need to be demolished back to the next junction. Brass caps will need to be used to cap the piping.
5. The project calls for a few Niagara based ECC that will pull in all of the new controllers and equipment installed under this project. Is it the intent of the project to pull in all of the existing Siemens and Trane controls into the new ECC as well for a single operator workstation?
   It is in the best interest of the VA to put all of the new controllers in the scope of this project on a new Niagra based ECC. The existing controllers will remain on the current ECC. Remove all work associated with Bid Item Alternate No. 8 from the contract in its entirety.
6. If so, can we get a points or equipment listing from each system (Trane and Siemens) that will need to be integrated into the new system?
   See answer to question 5.
7. Will new graphics need to be generated for all of the existing systems from Trane and Siemens?
   See answer to question 5.
8. The space above the ceilings is very limited. Can you confirm that this is a 100% conduit job. There appeared to be some existing cable trays that might be used for network wiring for the new control system.
   100% conduit is required. Low voltage conduit shall be coated blue.
9. Drawing M-502 shows the system a new Integration JACE connecting to the existing Trane and Existing Siemens system. To allow this to occur at the level indicated, both existing systems must have IP based communication using either BACNet or OPC. In either cases the interface will need to be bi-directional.
   Communication from the floor level controller to the ECC shall be BACNet IP.
10. Spec section 23-09-23 Page 4 section F refers to a VA approved Integration Plan.
    Please clarify. Cannot locate reference to VA approved Integration Plan in Section F of Specification Section 23 09 23.

11. We request that the base bid system include the new Web Supervisor Server and all JACE controllers and VAV controllers needed as part of this project and have the ability through BACNet IP to connect to existing Siemens and Trane system in the future. If not and system remains in Base Bid. Significate additional information will be needed to provide accurate pricing. Also since the Siemens system that is installed is proprietary, this work must be broken out into a separate bid package to sole source to Siemens for them to provide the Enterprise BACNet Server / Client IP or OPC client / Server interface to include all software and all point programing.
    See answers to question 5 and 9.

12.Is wireless technology acceptable to be used as part of the control system?

Wireless technology is not acceptable

13.Are all Niagara License required to be open?

Yes

14. The VA has in the past discussed the need for being able to replace the JACE controllers with onsite personnel? If this is the case then we recommend adding the following verbiage: If the global controller does not have the ability to store all configurations, including the controllers licensing, onto a removable storage device i.e. micro SD card, then a spare controller shall be provided for each global controllers and it shall be loaded, configured and licensed exactly the same as the online unit including same IP addresses so that in the event of failure the spare can be installed and put into operation by the site Operators at any time. By anytime we refer to afterhours, weekends, and holidays. Worst case would be 2am December 25th

The following shall be added to the specifications:

"If the global controller does not have the ability to store all configurations, including the controllers licensing, onto a removable storage device i.e. micro SD card, then a spare controller shall be provided for each global controllers and it shall be loaded, configured and licensed exactly the same as the online unit including same IP addresses so that in the event of failure the spare can be installed and put into operation by the site Operators at any time."

15. : Is energy data needed per VAV terminal? I.E. is there a requirement to provide BTU information at the VAV terminal level such as BTU from reheat, BTU from AHU and BTU in space? If so we suggest: VAV terminal controllers shall calculate BTU energy derived from the AHU, BTU energy derived from the reheat coil (where applicable) and BTU energy delivered to the space as indication of energy use per zone. This programing must be done at the terminal level to minimize network traffic and building controller processor resources.

Energy Data is not required.

16. : Zone sensors for all spaces except psychiatric patient rooms and specified to include in section 2.11. Based on evolving standards for hospitals we see most new projects requiring humidity sensors also. Are Humidity sensors required for all patient rooms?

Humidity sensors shall not be required in the scope of this project.

17. Are manufacturing standard / off the shelf / control elements acceptable?

All control elements shall be in accordance with specification section 23 09 23.

18. : Is the ability to TAB and adjust airflow set points from each zone stat with a display without the need of a computer and software required?

TAB does not have to be completed via a zone sensor without a computer. TAB should be able to be completed at each zone sensor with a computer, tablet, or mobile device.

19. : All characterized ball type control valves with last position fail actuators acceptable for VAV terminal and FCU's? This is industry standard and typical for this application.

Actuators shall fail in last position

20. : Training is specified but is a 2 day classroom based, specific operator training session required? If so please indicate how many operators shall attend.

Training shall be set aside for 8 VA employees

21. Will the VA provide the Ethernet backbone network gear such as switches and hubs?

Yes

22. Will the VA provide the Ethernet backbone structured cabling?

The VA will not provide the Ethernet backbone structured cabling.

23. Where will the Engineering workstation reside? If not in building 100, how will IP connectivity be established?

The engineering workstation will reside in Building 7 Room 107 (Boiler Plant Control Room). IP connectivity will be available.

24. Typically a Niagara Building controller will either have a plug in "wall wart" power supply or a din rail mounted power supply. We suggest that the following be included to ensure no operations issues with the "wall wart" falling out of a plug in the panel. If the global controller does not have the ability to be powered by a conventional 24Vac source, then the dedicated DIN rail power supply shall be provided for the building controller and shall be connected to the proprietary power connector. One additional power supply shall be provided as a spare for every 10th global controller.

The floor level controller powers supplies shall be installed according manufacturer instructions and recommendations.

25. Question #15: With the changes in the market place and enhanced energy analytics coming online the processor speed of the global controller has become very important. Less than 1 gb of ram and minimum of a 652mz processor may result in performance issues. We recommend that the Controller shall have at a minimum a Quad Core 996Ghz processor to ensure fast processing speeds. Controller

shall have a minimum of 1 GB of DDR3 SDRAM on a 533Mhz bus to ensure high speed data recording, large data storage capacity and reliability.

Either you have this spec or: If the Niagara Building controller does not have listed processor or memory as a minimum then a maximum of 30 devices shall be connected to each Niagara Building controller to ensure proper performance.

A maximum of 30 devices shall be connected to each floor level controller.

26. The VA was originally talking about having the ability to have graphics loaded onto the Niagara Building controller. Is there a requirement to have the Workbench licenses installed on each Niagara Building controller? Is there a requirement to have the Web UI license installed on each Niagara Building controller?

Yes to all

27. We have looked for and cannot determine what the SDVOSB entity participation for providing direct labor on the job is (doing work with their own forces). Please clarify what % MUST BE DONE directly by the SDVOSB entity workforce, and how hours will be tracked/substantiated during the project. 15% for General Construction and 25% for Specials (Plumbing, Electrical Etc.). Daily Logs and Certified Payrolls.

28. Can we use piping packages/and or hose packages for typical hook ups of the VAV boxes and reheat coils?

Piping packages utilizing hard pipe are permited.

29. Drawing M-502, detail 1, shows integration of existing Siemens and Trane systems to the new central NiagaraAX Master Supervisor. It is clear that the Trane system serves the chiller plant but additional information is required regarding the existing Siemens system. Please submit riser diagram as-built drawing of the Siemens system, and/or Siemens node report which can be easily pulled from existing Siemens front end. This information is required to bid this integration.

See the answer to question 5.

30. Phasing and construction scheduling, page 9 of 55, statement of work, project construction will be phased to include renovation of one room per floor at a time. The question is can multiple rooms be done on each floor concurrently?

Multiple rooms per floor cannot be completed concurrently.

31. The electrical drawings indicate that the Electrical contractor is to run 120V power to each terminal box controller. The controllers can be powered with 24V. Is it acceptable to use 24V power in lieu of 120V? If so, is it acceptable to run the 24V power trunk in open cable above concealed accessible areas in lieu of conduit?

No, 120V shall be run as shown

32. Specification section 230923.1.A states *" The combined system shall operate and function as one complete system including one database of control point objects and global control logic capabilities. Facility operators shall have complete operations and control capability over all system, new and existing including; monitoring, trending, graphing, scheduling, alarm management, global point sharing, global strategy deployment, graphical operation interface and custom reporting."* Based on this requirement, is it the intent of the VA to have all existing global programming, point databases, schedules, trends, alarms and graphics associated with the Siemens Apogee system and Trane Tracer system recreated on the new Tridium Workstation? In order to accurately price the integration of the existing systems, please clarify the following:

Siemens Apogee System

1. Quantity of physical points.
2. Quantity of sub points.
3. Quantity of trends.
4. Quantity of schedules.
5. Quantity of alarm points.
6. Quantity of alarm points setup for remote notification.
7. List and quantities of HVAC equipment controlled (AHUs, EFs, terminal boxes, pumps, etc)
8. Quantity of floor plan graphics.

Trane Tracer System

1. Quantity of physical points.
2. Quantity of sub points.
3. Quantity of trends.
4. Quantity of schedules.
5. Quantity of alarm points.
6. Quantity of alarm points setup for remote notification.
7. List and quantities of HVAC equipment controlled (AHUs, EFs, terminal boxes, pumps, etc)
8. Quantity of floor plan graphics.

See answer to question 5

33.Is it acceptable for control wiring be run in open cable above concealed accessible ceilings in lieu of conduit?

See answer to question 8.

34. Will this project require flow meters?

Airflow measuring devices are required per Specification 23 26 00.

35. We will not have a representative at the pre-bid for your project's prebid meeting. We are requesting an additional walkthrough at your convenience so we can get a good feel for the existing conditions. There will not be any other pre bid site visits for this project at this time.